Document généré le 4 mai 2023 11:55

Phytoprotection

phytoprotection

A note on *Systena frontalis* [Coleoptera : Chrysomelidae] adults on lowbush blueberry, *Vaccinium angustifolium*

Une note sur la présence de *Systena frontalis* [Coleoptera : Chrysomelidae] adulte sur le bleuet nain, *Vaccinium angustifolium*

P.M. Maltais et M.C.. Ouellette

Volume 81, numéro 3, 2000

URI : https://id.erudit.org/iderudit/706207ar
DOI : https://doi.org/10.7202/706207ar

Aller au sommaire du numéro

Éditeur(s)

Société de protection des plantes du Québec (SPPQ)l

ISSN

0031-9511 (imprimé)
1710-1603 (numérique)

Découvrir la revue

Citer cet article

Maltais, P. & Ouellette, M. (2000). A note on *Systena frontalis* [Coleoptera : Chrysomelidae] adults on lowbush blueberry, *Vaccinium angustifolium*. *Phytoprotection*, *81*(3), 129–131. https://doi.org/10.7202/706207ar

Résumé de l'article

L'altise à tête rouge, *Systena frontalis*, est observée pour la première fois sur le bleuet nain, *Vaccinium angustifolium*.

La société de protection des plantes du Québec, 2000

Ce document est protégé par la loi sur le droit d'auteur. L'utilisation des services d'Érudit (y compris la reproduction) est assujettie à sa politique d'utilisation que vous pouvez consulter en ligne.

https://apropos.erudit.org/fr/usagers/politique-dutilisation/

érudit

Cet article est diffusé et préservé par Érudit.

Érudit est un consortium interuniversitaire sans but lucratif composé de l'Université de Montréal, l'Université Laval et l'Université du Québec à Montréal. Il a pour mission la promotion et la valorisation de la recherche.

https://www.erudit.org/fr/

Short communication / Communication brève

A note on *Systena frontalis* [Coleoptera : Chrysomelidae] adults on lowbush blueberry, *Vaccinium angustifolium*

Patrick M. Maltais[1], and Marc C. Ouellette[2]

Received 2000-06-06; accepted 2000-12-19

PHYTOPROTECTION 81 : 129-131

Systena frontalis, the red-headed flea beetle, is reported for the first time feeding on the foliage of lowbush blueberry, *Vaccinium angustifolium*.

[Une note sur la présence de *Systena frontalis* [Coleoptera : Chrysomelidae] adulte sur le bleuet nain, *Vaccinium angustifolium*]

L'altise à tête rouge, *Systena frontalis*, est observée pour la première fois sur le bleuet nain, *Vaccinium angustifolium*.

Contrary to most Alticinae [Coleoptera : Chrysomelidae] which are specialized and well adapted to their host plant, members of some genera such as *Systena* are polyphagous (Jolivet 1988). Such is the case with *Systena frontalis* Fabricius, the red-headed flea beetle, which has been recorded from the provinces of Alberta, Manitoba, Ontario, Québec and New Brunswick in Canada (Campbell *et al.* 1989) as well as from several states in the U.S. (Chittenden 1902). This chrysomelid was first noted in Canada in 1882 feeding on leaves of grape (Chittenden 1902). Since then, it has been recorded in the adult stage, in this country and in the U.S., feeding on the leaves, flowers and fruits or in the larval stage feeding on the roots of a number of plants including aster (*Aster* sp.), wax and other beans (*Phaseolus vulgaris* L. and *Phaseolus* sp.), sugar beet (*Beta vulgaris* L.), beggar-ticks (*Bidens frondosa* L.), black bindweed (*Polygonum convolvulus* L.), common burdock (*Arctium minus* (Hill) Bernh.), cabbage (*Brassica oleracea* L.), chrysanthemum (*Chrysanthemum* sp.), white clover (*Trifolium repens* L.), red clover (*Trifolium pratense* L.), corn (*Zea mays* L.), cranberry (*Vaccinium macrocarpon* Ait.), dahlia (*Dahlia variabilis* (Willd.) Desf.), daisy (*Chrysanthemum leucanthemum* L.), dogbane (*Apocynum cannabinum* L.), forsythia (*Forsythia* sp.), giant foxtail (*Setaria faberii* Herrm.), goldenrod (*Solidago* sp.), gooseberry (*Ribes* sp.), grapes (*Vitis* sp.), heal-all (*Prunella vulgaris* L.), helichrysum (*Helichrysum* sp.), hibiscus (*Hibiscus militaris* Cav.), Japanese honeysuckle (*Lonicera japonica* Thunb.), hop vines (*Humulus lupulus* L.), lady's-thumb (*Polygonum persicaria* L.), lamb's-quarters (*Chenopodium album* L.), lettuce (*Lactuca sativa* L.), wild lettuce (*Lactuca canadensis* L.), marsh mallow (*Althaea officinalis* L.), rose mallow (*Hibiscus* sp.),

1. Department of Biology, Faculty of Science, Université de Moncton, Moncton, New Brunswick, Canada E1A 3E9; e-mail : maltaip@umoncton.ca
2. Department of Fisheries and Oceans, Science Branch, Gulf Fisheries Centre, P.O. Box 5030, Moncton, New Brunswick, Canada E1C 9B6

pear (*Pyrus communis* L.), pigweed (*Chenopodium* sp.), rough pigweed (*Amaranthus retroflexus* L.), ragweed (*Ambrosia trifida* L.), smartweed (*Polygonum pensylvanicum* L.), soybeans (*Glycine soya* (L.) Sieb. & Zucc.), strawberry (*Fragaria grandiflora* Ehrh.), sunflower (*Helianthus annuus* L.), sweetpotato (*Ipomoea batatas* (L.) Lam.), Canada thistle (*Cirsium arvense* (L.) Scop.), turnip (*Brassica rapa* L.), velvetleaf (*Abutilon theophrasti* Medic), weigelia (*Weigelia florida* (Sieb. & Zucc.)), and zinnia (*Zinnia elegans* Jacq.) (Beirne 1971; Bouchard *et al.* 1993; Caesar and Ross 1929; Campbell *et al.* 1989; Chittenden 1902; Gibson 1921, 1934; Guppy 1958; Hawley 1922; Hudon and Martel 1980; Jacques and Peters 1971; Peters and Barton 1969; Rivard *et al.* 1975; Scammel 1917; Storch *et al.* 1979).

During the course of a study on the blueberry flea beetle, *Altica sylvia* Malloch, at Losier Settlement and Val Doucet near Tracadie (47°55′ N, 64°95′ W), in the northeastern part of New Brunswick, Canada, the presence of this red-headed flea beetle was noted on lowbush blueberry plants (*Vaccinium angustifolium* Ait.). Sweep nets, sticky traps, pitfall traps, and soil samples were used to monitor all the life stages of *A. sylvia* over 2 yr, from 23 May to 8 November 1994, and from 18 May to 25 October 1995 (Ouellette 1998). *S. frontalis* adults were observed on the plants both yr, from late July to the third wk of September, making numerous small holes in the leaves while feeding.

At present, we have limited information on the habits and hosts of *S. frontalis* in New Brunswick. It was first reported from the province in 1934 where it was found feeding upon the foliage of potato, turnip, beans and clover during a small local outbreak (Gorham 1935). In our fields, no larvae were found on the roots and the adult beetles, appearing after formation of the fruit, fed only on foliage. Consequently, because of relatively low population numbers (Table 1), the insect should not be of economic concern to blueberry growers of this province. Since this is the first reported case ever of the insect being recorded on blueberry plants, this occurrence is probably accidental, the primary hosts being a number of weeds such as asters, goldenrods, heal-all and lady's-thumb commonly found in blueberry fields of New Brunswick.

In our efforts to study the blueberry flea beetle adult populations, sticky traps were used on which a number of red-headed flea beetles were caught. This

Table 1. Number of *A. sylvia* and *S. frontalis* adults captured in sweep nets and on sticky traps at Val Doucet (1994, 1995), and Losier Settlement (1995), N.B.

	Sweep nets		Sticky traps	
Date[a]	*A. sylvia*	*S. frontalis*	*A. sylvia*	*S. frontalis*
		Val Doucet (1994)		
August				
8	56	26	34	0
30	5	11	16	4
		Val Doucet (1995)		
July				
27	0	1	0	1
		Losier Settlement (1995)		
August				
8	31	1	0	0
17	0	0	0	1
23	0	0	1	1
September				
7	0	0	0	3
20	0	1	0	0

[a] Even though sampling was carried out over 5 months each year, only the dates where *S. frontalis* was captured are included in Table 1.

proved to be confusing because both insects are about the same size (4-4.5 mm). *S. frontalis* is dark black with a reddish-yellow head while *A. sylvia* is cupreous with metallic reflections. The glue of traps, however, darkens *A. sylvia* making both beetles almost similar in appearance, more so if the glue coating is thick and the head is not readily visible. Thus, unless care is taken when counting specimens on sticky traps, erroneous blueberry flea beetle population numbers will result.

ACKNOWLEDGMENTS

We thank L. LeSage, Agriculture and Agri-Food Canada, for confirming identification of insect species. We also thank C. Ouellette for her technical assistance. We express our deep gratitude to the participating growers and their employees for their cooperation during this study. Support for this research was provided by the Canada-New Brunswick Cooperation Agreement on Economic Development project no. 500-240-147. Extensive support was also given by the New Brunswick Department of Agriculture and Rural Development, Agriculture and Agri-Food Canada, and the Université de Moncton, Moncton, New Brunswick.

REFERENCES

Beirne, B.P. 1971. Pest insects of annual crop plants in Canada. I, Lepidoptera; II, Diptera; III, Coleoptera. Mem. Entomol. Soc. Can. 78. 124 pp.

Bouchard, D., C. Vincent, J.-G. Pilon, M. Masseau, and C. Ritchot. 1993. Principaux ravageurs de la betterave sucrière au Québec. Rev. Entomol. Que. 36 : 3-14.

Caesar, L., and W.A. Ross. 1929. Insects of the season 1929 in Ontario. Rep. Entomol. Soc. 60 : 17-23.

Campbell, J.M., M.J. Sarazin, and D.B. Lyons. 1989. Canadian beetles (Coleoptera) injurious to crops, ornamentals, stored products, and buildings. Res. Branch, Agric. Can. Ottawa, Ont. Pub. 1826. 491 pp.

Chittenden, F.H. 1902. Some insects injurious to vegetable crops. U.S. Dept. Agric. Entomol. Bull. 33 : 111-113.

Gibson, A. 1921. Common garden insects and their control. Agric. Can. Entomol. Div. Circ. 9. 20 pp.

Gibson, A. 1934. Insects of the flower garden and their control. (Rev.). Agric. Can. Bull. (n.s.) 99. 56 pp.

Gorham, R.P. 1935. Field crop and garden insects of the season 1934 in New Brunswick. *in* The Canadian Insect Pest Review. Res. Branch, Agric. Can. Ottawa, Ont. 1 : 34.

Guppy, J.C. 1958. Insect surveys of clovers, alfalfa, and birdsfoot trefoil in eastern Ontario. Can. Entomol. 90 : 523-531.

Hawley, I.M. 1922. Insects and other animal pests injurious to field beans in New York. N.Y. Agric. Exp. Stn. Ithaca Mem. 55 : 949-1037.

Hudon, M., and P. Martel. 1980. État des insectes nuisibles dans certaines cultures du sud-ouest du Québec en 1978. Ann. Soc. Entomol. Que. 25 : 68-71.

Jacques, R.L., and D.C. Peters. 1971. Biology of *Systena frontalis*, with special reference to corn. J. Econ. Entomol. 64 : 135-138.

Jolivet, P. 1988. Food habits and food selection of Chrysomelidae. Bionomic and evolutionary perspectives. Pages 1-24 *in* P. Jolivet, E. Petitpierre, and T.H. Hsiao (eds.), Biology of Chrysomelidae. Kluwer Academic Publishers, Norvell, USA.

Ouellette, M. 1998. Description du cycle biologique, de la dynamique et de la gestion des populations de l'altise de l'airelle (Coleoptera : Chrysomelidae) dans des bleuetières cultivées au nord-est du Nouveau-Brunswick. Thèse de maîtrise, Dép. de Biologie, Université de Moncton, Moncton, Nouveau-Brunswick. 121 pp.

Peters, D.C., and H.E. Barton. 1969. *Systena frontalis* larvae in corn roots. J. Econ. Entomol. 62 : 1232-1233.

Rivard, I., R.O. Paradis, B. Parent, and M. Mailloux. 1975. Les ravageurs des cultures fruitières dans le sud-ouest du Québec en 1974. Ann. Soc. Entomol. Que. 2 : 69-71.

Scammel, H.B. 1917. Cranberry insect problems and suggestions for solving them. USDA Framers' Bull. 860. 45 pp.

Storch, R.H., F.E. Manzer, G.I.I. Sewell, and O.P. Smith. 1979. Adult red-headed flea beetle found feeding on potato in Maine (Coleoptera : Chrysomelidae). Am. Potato J. 56 : 363-364.